Docket No.132936-1

Listing of claims

Claims 1-8 (Presently Canceled).

9. (Presently Amended) A system for quantifying compounds in fluids, gases, vapors, and solids, the system comprising:

a disc drive for supporting and rotating an optical disc, said optical disc including a substrate layer and at least one sensor spot;

a light source positioned for directing light onto the at least one sensor spot without first directing the light onto the substrate layer;

at least one optical pickup for detecting light transmitted through the at least one sensor spot, the transmitted light being indicative of a concentration of a compound; and

an analog-to-digital converter for quantifying an intensity of the transmitted light.

10. (Original) The system as in claim 9, wherein the optical disc includes digital data, and the system further comprises a digital-to-analog converter for reading the digital data from the at least one optical pickup.

11. (Original) The system of claim 10, wherein the digital data includes information on a location of the at least one sensor spot.

12. (Original) The system as in claim 9, further comprising a filter coupled between the at least one optical pickup and the analog-to-digital converter for filtering noise.

13. (Original) The system as in claim 9, wherein the optical disc includes a highly reproducible sensor array for producing a prerecorded standard response.

14. (Original) The system as in claim 13, further comprising a processor for comparing measured intensity of the transmitted light to the prerecorded standard response.

15. (Original) The system as in claim 9, further comprising a memory for storing a prerecorded standard response and a processor for comparing measured intensity of the transmitted light to the prerecorded standard response.

16. (Original) The system as in claim 9, further comprising a vapor induction port for inducing vapor across the optical disc while being supported by the disc drive.

17. (Original) The system as in claim 9, further comprising a heater for heating the at least one sensor spot on the optical disc.

18. (Original) The system as in claim 10, wherein the optical disc further comprises a triggering mark for determining a location of the at least one sensor spot independent of the digital data.

19. (Original) The system as in claim 10, wherein the optical disc further comprises a triggering mark for determining a location of the at least one sensor spot independent of the digital data, where the trigger mark serves simultaneously as an internal reference for providing information about at least one state of the optical disc.

20. (Original) The system as in claim 10, wherein the optical disc further comprises a sensor spot pattern for determining a location of the at least one sensor spot independent of the digital data.

21. (Original) The system as in claim 9, further comprising a processor for performing precision-improvement analysis on the measured intensity of the transmitted light, wherein the precision-improvement analysis includes summing, averaging, Fourier filtering or Savitsky-Golay filtering of multiple readings of the intensity of the transmitted light.

Claims 22-43 (Presently Canceled).